CLAIMS

1-11. (Canceled)

12. (Currently Amended) A method of making ceramic armor, comprising:

(a) providing a base plate, a frame having an open center, and a cover plate, together defining an internal chamber;

(b) inserting a piece of ceramic material into said chamber, said ceramic material being closely received within said chamber, said base plate, frame, cover plate, and ceramic material together defining an assembly;

(c) said metallic material having a coefficient of thermal expansion greater than a coefficient of thermal expansion of said ceramic material;

(d) placing said assembly into a graphite die, said die having inner walls coated with Titanium foil, said assembly having outer surfaces engaging said foil, said foil separating said outer surfaces from said walls of said die; [[with said ceramic material therein]]

(e) placing said die with said assembly therein into a hot press consisting of a furnace located within a sealed chamber;

[[(e)]] (f) conducting a hot pressing procedure on said assembly under controlled parameters of temperature, pressure and atmosphere until said metallic material is plastically deformed around said ceramic material.

13. (Original) The method of Claim 12, wherein said metallic material comprises a Titanium alloy.

14. (Original) The method of Claim 13, wherein said Titanium alloy comprises Ti-6Al-4V or Ti-6Al-4V ELI.

15. (Original) The method of Claim 14, wherein said ceramic material comprises a dense SiC ceramic material such as PAD SiC-N.

16. (Original) The method of Claim 15, wherein the coefficient of thermal expansion of the Titanium alloy is about 10.5 x 10^{-6} in/in °C from 0-600 °C, and the coefficient of thermal expansion of the ceramic material is about 4.1 x 10^{-6} in/in °C from 0-600 °C.

17. (Original) The method of Claim 12, wherein said hot pressing procedure includes the following steps:

(a) evacuating said sealed chamber to a pressure of about 10 torr;

(b) heating said sealed chamber to about 800°C and, during said heating step, purging said sealed chamber with an inert gas at least once followed by evacuating said sealed chamber back to 1 to 1.5 torr;

(c) maintaining pressure in said sealed chamber to less than 1.5 torr once temperature therein has risen to 800°C;

(d) increasing said temperature from 900°C - 1300°C.

18. (Original) The method of Claim 17, wherein once said temperature reaches 900°C, increasing physical pressure on said assembly in said chamber to at least 250 psi and holding temperature and physical pressure constant for at least two hours.

19. (Original) The method of Claim 12, wherein said internal chamber of said assembly includes four sub-chambers.

20. (Original) The method of Claim 19, wherein said sub-chambers are created by machining said frame using an EDM process.

21. (Original) The method of Claim 12, wherein said coefficient of thermal expansion of said ceramic material is no greater than 9×10^{-6} in/in°C.

22. (Original) The method of Claim 21, wherein said ceramic material is chosen from the group consisting of Silicon Carbide, Boron Carbide, Tungsten Carbide, Titanium Diboride, Aluminum Oxide, Silicon Nitride, and Aluminum Nitride.

23. (Original) The method of Claim 12, wherein said atmosphere comprises a high purity Argon atmosphere.

24. (New) The method of Claim 12, wherein graphite foil is placed between said walls of said die and said Titanium foil.

25. (New) The method of Claim 12, further including the step of providing graphite spacers between said walls of said die and said assembly.

26. (New) The method of Claim 25, further including the step of coating outer surfaces of said spacers with graphite foil.

27. (New) The method of Claim 26, further including the step of covering said graphite foil on said spacers with Titanium foil.